

AN INVESTIGATION OF THE OPPORTUNITY FOR INNOVATIVE
PRACTICES IN STUDENT TEACHING

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CHAPTER I

INTRODUCTION

Teacher preparation institutions provide their students with current research data on learning theory and new stratagems in their chosen field, but in spite of this, by the time many persons go into the classroom, they are doing things in essentially the same manner as the established teacher.

I. THE PROBLEM

Statement of the problem. The purpose of this study was to ascertain whether or not the 37 students from Drake University doing their student teaching in Des Moines elementary schools during the 1968 fall semester developed any novel teaching methods. In an attempt to answer this question, a survey of the students' attitudes was made, and, where it was possible, this survey was compared with the cooperating teachers' evaluations of the students.

It was hoped that from this information, it could be determined whether the students had an attitude favorable to innovation, and, if they did, were they allowed to experiment with novel teaching methods.

Importance of the study. It has been said that the

only thing certain about change is change itself. In America today, people must recognize the certainty of change and realize that it will permeate every facet of their society. Meyer, in an article in the Journal of Secondary Education, said:

Educational change is inevitable. As a result of ever-accelerating social, economic, and political forces, rapid cultural forces are effecting the whole structure of society with far reaching implications for our schools. A sense of urgency exists: the whole concept of schooling is changing. More is expected of the schools: they are charged with the responsibility of providing more students with more years of education and at a higher level of skill performance. Teaching tasks must be reassessed and high priorities must be given to instructional innovation and teacher creativity.¹

Unfortunately, even armed with this information, the schools are not facing their responsibility in this situation. Many writers feel that teaching is not a dynamic profession and that it will take some daring effort on the part of the membership to make it that. Somehow they are going to have to begin to think of innovative teaching as a usual situation rather than an unusual one.

Much of the blame for education's ills is placed on the teachers. Meyer substantiates this idea, saying, "Perhaps too creative thinking persons entering the teaching

¹James A. Meyer, "Do Teachers Promote Change? If Not, Why Not? And What Can Be Done About It?," The Journal of Secondary Education, XXXIV, No. 3 (March, 1969), 107.

profession tend to be squelched in an oppressive process of teacher training and teacher supervision."¹

Therefore, if we continue in our present method, we are destined to mediocrity and we shall have an educational cataclysm not of our choosing. Education courses in the university offer latest research in learning theory and teaching innovations. The student teacher coming into the schools is armed with the information to bring about change in the schools, if he is allowed to do so. The question seems to be, does the student teacher have the attitude and the courage to be innovative? If he does not, educators must determine whether it ever existed at all.

It is the purpose of this paper to analyze some data to see if student teachers, after completing one semester of student teaching, felt that they were allowed to be innovative. That is, were they permitted to be bold and experiment with new ideas, methods, materials, and facilities in the classroom? On the other hand, did the student teachers feel after the semester that they were nothing more than a flattering imitation of the supervising teacher?

II. DEFINITION OF TERMS USED

For purposes of clarity to the reader, the following definitions of terms used in this field report are furnished:

¹Ibid., p. 108.

Student teachers attitudes. Generally an attitude is a tendency to react in a certain way toward an idea, group, individual, object, etc. It determines how the person will behave in a situation. Attitudes are always for or against something. For purposes of this study, it will be limited to mean the student's reaction to the ten statements on an attitude scale of 55 items. This reaction will be in the form of rejection or acceptance of certain ideas.

Innovation. Innovation occurs when a person functions as a catalyst or change agent in the educative process and manipulates one or more of the following variables: (a) teachers, (b) students, (c) subjects, (d) methods, (e) materials and facilities, and (f) time. Some of the processes used in innovation are: (a) simulation games, (b) modular scheduling, (c) discovery method of learning, (d) programed learning, (e) verbal interaction analysis, (f) echo reading, (g) cuisenaire rods, (h) socio-drama, (i) critical incident, (j) sociogram, (k) field trips, and (l) team teaching.

III. REVIEW OF THE LITERATURE

The rest of this chapter is devoted to a presentation of the literature the writer felt important to this study. The first part discusses the amount of innovation present in schools today. The balance of the chapter deals with the importance of student teaching, the role of the cooperating

teacher, and the student teacher. Chapter II will show the procedure used by the writer to find out if student teachers were innovative, and the results of that study. The final chapter was devoted to a summary of the whole study, the conclusions drawn by the writer, and his recommendations for any further study in this area.

The literature pertaining to student teaching and innovation was surveyed for information germane to this study. It was important to determine to what extent innovative teaching was taking place in the schools so that it could be seen whether there was a need to develop teachers of that type. The writer studied the student teaching literature because he felt that if innovative persons were going to be developed, it would have to be early in their career. The research centered on the importance of student teaching in the development of the teacher, how the cooperating teacher viewed the experience, and the student's role in it. These were felt to be of importance because it was generally accepted that student teaching was an important part of teacher education.

All possible points of view must be viewed if one is to get an accurate picture of it, and for this reason, the writer studied the cooperating teachers' perception of the student teaching relationships and how it might affect innovation. How the student perceives the program and his role

in it are also of consequence. Because this information must be known to understand the reason for this study and the methodology used, it was considered to be a major part of the paper. Although this information appears in the first chapter, it could be considered as part of the results because as a consequence of this information, the writer undertook the balance of this field study.

"Without the benefit of creative individuals or a creative minority within our own ranks our profession is destined to mediocrity."¹

The statement takes on even more significance with the increased student unrest in America's schools. At a time when society is making its greatest demands on education, it is imperative that teachers strive for excellence. This pursuit for excellence can be greatly facilitated with the recruitment and utilization of innovative teachers who will function as change-agents. Current thought in education recognizes the need for pioneering persons. In an article in The Journal of Secondary Education, Meyer recognizes the inevitability of social change and the increased demands that it makes upon the schools. He stated, "If the schools are to meet the challenge of today's living, they

¹Lester D. and Alice Crow, The Student Teacher in the Elementary School (New York: David McKay Company, Inc., 1965), p. 108.

must reassess their position and place more emphasis on innovation and teacher creativity."¹

Biddle also supported the need for change in the schools, saying,

The school that encourage experimentation with education contexts, new approaches, new facilities, new classroom situations is likely to create an excitement for education that guarantees learning even for the teacher.²

The most important catalyst in this atmosphere of change in the schools is the teacher, and before it becomes a reality there will have to be a number of concepts changed. It is important that these processes become the usual thing rather than the unusual. Until this happens, the educative process will be inadequate in this period of turbulent social change.³

One critic of America's schools suggests that there is a dearth of innovative persons teaching youth and that this has some effect on the whole of society. Reisman contends the larger part of society is "other-directed," that is, they tend to act in a manner dictated by their peers rather than in an individualistic way.⁴

¹Meyer, op. cit., p. 111.

²Bruce J. Biddle and William J. Ellena (eds.), Contemporary Research on Teacher Effectiveness (New York: Holt, Rhinehart and Winston, 1964), p. 39.

³David Reisman, The Lonely Crowd (Hartford: Yale University Press, 1950), p. 83.

⁴Meyer, loc. cit.

A study by the New York State Commissioner of Education found that "teachers are not change agents for innovations of major scope. Even when free to guide their own activities, teachers seldom suggest distinctly new types of working patterns for themselves."¹

The implications of this resistance to change can be monumental. Education is confronted by the youth in their revolt against society, and yet, the classroom teachers resist change as an instrument of vitality and as a means to bring substance to the curriculum. How does the establishment effect the changes necessary to stay attuned to the times? The initial step would be to inquire into the teaching profession itself. Some questions that should be answered are:

1. Why are not teachers serving as change agents?
2. What factors cause teachers to be more conformist and less individualist?
3. Is the problem one the teacher training institutions should be concerned with?

From the previous data in this chapter, it can be recognized that teachers are not serving as change agents. The biggest factor in teacher conformity is teachers themselves; the profession has a way of suppressing creative persons. It seems that the hope of innovation then must

¹Ibid.

rest with the teacher training institutions and their ability to select and train dynamic people.

Ideally, formal education has as its goal the acquisition by each pupil those skills that are of value to him in developing his own life style. This is done by using activities directed by the teacher. Unfortunately, unless the student can be properly motivated, he will derive little value from the learning experience. It becomes important that the teacher adapt his teaching style to meet the learning style of his students.¹

The inability to do this hinders the teacher's chances of becoming a change agent. Reisman said that the teachers actually tend to punish the members of their ranks who attempt to do too much for the students.² This professional ostracism seems to discourage individualism in teaching.

In this paper, the writer concentrated on one specific area of teacher training: student teaching. This part of a teacher's development was generally regarded as the most important.

"This generation of college students has been babysat

¹Crow and Crow, op. cit., p. 198.

²Reisman, op. cit., p. 84.

by television from age three onward and have up to 22,000 hours of television viewing."¹ This was in competition with the schools' education system. As a result, the American schools should become aware that they must make their offering to youth more relevant or they might be interfering with his education by making him come to school. This realization has caused educators to do a great deal of personal assessing in regard to their system and the philosophy that fosters it. America's schools have evolved from attempting to provide quality education to a few to trying now to provide a quality education for all.

The people entering the teaching profession today are being required more and more to be open-minded and able to bring about change. They are educated in a professional program that presents all of the latest theories on learning and teaching methods, and this is culminated in the student teaching program. The student teaching program is designed to provide a situation to test the knowledge the student had gained in the training period.

There is a great deal to be gained from this experience. Obviously, it allows the student to observe an experienced teacher, work with students, and experiment with some of his teaching methods. But it allows the school

¹ National School Public Relations Association, The Shape of Education 1969-70, Vol. II (Washington, D. C.: 1969), p. 6.

system and the university to measure the competency of the student as well. Student teaching must be recognized as a very significant part of teacher preparation. It is the only phase of the program that has been free of serious criticism.

Florence B. Stratemeyer emphasized the importance of the experience, stating:

Future generations of America's children will be guided in their school experiences by college students currently preparing to teach. The quality of the educational opportunity available to these children will depend to a large degree upon the kind of teachers our colleges prepare now. While many factors contribute to the development of skillful and artistic teachers, few are more important than the first hand contacts with children and youth in school and community situations which are provided by teacher education programs.¹

John Mulhern, former director of student teaching at Marquette, stated in an address to the North Central Association Committee on Student Teaching:

There exists today almost unanimous agreement among all persons concerned with teacher training--educators, critics, and laymen that student teaching is the single most valuable feature of teacher training programs. It remains the one aspect of professional education which has not come under serious attack as unnecessary.²

¹Florence B. Stratemeyer and Margaret Lindsey, Working With Student Teachers (New York: Bureau of Publications, Teachers College, Columbia University, 1958), p. 4.

²John D. Mulhern, "The New Emphasis in Student Teaching," The North Central Association Quarterly, XLII, No. 2 (Fall, 1967), 200.

The 1966 Yearbook of the Association for Student Teaching (AST) echoed those sentiments by suggesting that student teaching is one of the most important, if not the most important phase of teacher preparation.¹

Pose Lamb agreed that the experience was important. "The type of teacher a person will become is greatly determined by his student teaching experience."²

There seemed little doubt about the role of the experience in the development of future teachers, and so this study sought to discover how professional educators perceived the relationships. A study of definitive statements relating to the roles of the persons involved in the student teaching relationship was made. Houston saw student teaching as a chance for a student to try out a number of ideas and operations under the guidance of a supervisor. The supervisor anticipates mistakes and tries to explain the causes of different situations good and bad. The results of this experience serve as a springboard to his development as

¹The 1966 Yearbook, Association for Student Teaching (Cedar Falls, Iowa: 1966), p. 41.

²Pose Lamb, The Student Teaching Process in Elementary School (Columbus, Ohio: Charles E. Merrill, Inc., 1965), p. vi.

a teacher.¹

The AST made no attempt to allude to its importance in defining what transpired in the experience. They simply said, "It is a period of guided or supervised teaching during which the college student takes increasing responsibility for a given group of learners over a period of several weeks."²

Brooks in the Journal of Teacher Education made an attempt to be more comprehensive in his statement of what he perceived student teaching to be. He defined it generically, stating that it is studying teaching in a planned sequence involving novices, cooperating teachers, and college supervisors. It takes place in a clinical situation with properly supervised and responsible teaching. He suggests that it could be seen in a broader sense as a continuing study of the educational possibilities in certain situations under a variety of conditions. It is not a static thing but is a process that dynamically seeks new curricular plans and effective teaching strategies.³

¹Robert W. Houston, Frank H. Blackington III, and Horton C. Southworth, Professional Growth Through Student Teaching (Columbus, Ohio: Charles E. Merrill, Inc., 1965), p. 6.

²The 1966 Yearbook, op. cit., p. 43.

³E. Brooks Smith, "Needed: A New Order in Student Teaching," The Journal of Teacher Education, I (Spring, 1969), 28.

It can be deduced that this is an important phase of teacher preparation because it provided the budding teacher with his initial experience in the classroom; and as such, it was felt that the process warranted study of the specific roles of the participants. Although there are three major persons involved in the task for the purposes of this paper, the writer concerned himself with the cooperating teacher and the student teacher. Each of these persons must attempt to perform his duties as well as he can, this must be done if society is to obtain the competent, sincere, and honest teachers that today's schools need.

The supervising teacher is recognized as the most important person in the student teaching process. The success or failure of the experience is determined by his handling of the situation.¹

Stoller supported the importance of the cooperating teacher by stating, "there is no greater influence on the student teacher than that of the experienced teacher and his class."²

Stratemeyer and Lindsay said:

¹E. Perry Hicks, "Changing the Role of the Cooperating Teacher," The Journal of Teacher Education, XX, No. 2 (Summer, 1969), 153-157.

²Nathan Stoller, "Television for Teacher Education in Changes in Teacher Education A Reappraisal," Report of the NCTEPS, Columbus Conference, 1963 (Washington, D. C.: NCTEPS-NEA, 1964), p. 64.

Cooperating teachers hold an enviable position among teacher educators. Studies of beginning teachers, follow-up studies of graduates from teacher educational programs, and students' evaluation of their college preparation reveal that student teaching and other laboratory experience have a profound influence in determining the kind of teacher a student becomes. Tomorrow's teacher will tend to teach by principles they observe and use during their student teaching; they will tend to behave in ways they see advisers and teachers behaving today. They will tend to operate on the values and to hold the attitudes they perceive as they observe, participate, and take responsibility in classrooms as student teachers today.¹

Because of the importance of his duties, the critic teacher must be carefully selected. It must be kept in mind that the experience not only affects the immediate situation but that it has long range effects also. This initial contact will influence his behavior as a teacher and will touch the lives of hundreds of future students. It is for this reason that the selection of a supervising teacher must be done with great care.

The cooperating teacher must have certain qualities that will allow him to turn out the best possible student teachers:

1. He must be psychologically and professionally secure enough to handle questions without considering them as personal attacks.
2. He must recognize that mistakes will be made by the student, anticipate them, and help analyze some of

¹Stratemeyer and Lindsey, op. cit., p. 4.

the causes of good and bad situations.

3. He must respect the student's views and help him develop methods and techniques which are appropriate for him as a unique individual.
4. He must make every effort to build upon the student teacher's strengths to make the student teaching a successful venture.
5. He must encourage the student to involve the children in many varied learning experiences.

Despite the need for this person with special characteristics, all too often the selection criteria for cooperating teachers rests with the public schools. The reason for this is that they have the biggest stake in the program. Unfortunately, the experience then most depends on the individual teacher's view of it. Haines said, if it is seen as an apprenticeship, the emphasis will be upon encouraging the student teacher to become competent in the ways found effective by the teacher. On the other hand, if it is seen as an internship, implementation of creative application of fundamental principles, abstraction of sound generalizations from immediate involvements, and continual explorations will be stressed.¹

In conventional student teaching, the supervisors are

¹ Aleyne C. Haines, Guiding the Student Teaching Process (Chicago: Rand McNally and Co., 1960), p. 13.

often inclined to inhibit the innovative development of young teachers. This can be attributable to the selection criteria used by the schools for their cooperating teachers. In many instances, the persons selected are rewarded for long and faithful service. Their perception of the experience differs markedly from that of the teacher preparation institution. Many of the teachers see it as an experience in endurance designed to show the student the amount of energy required in a typical day. Some view it as an opportunity for a paid vacation and turn the class over to the student and leave. Still another group turns over those boring tasks that they find tedious and monotonous to the student teacher. There seems to be little concern on the part of many experienced teachers as to how these situations actually set back the training of the future teacher.¹

Another problem in the selection process is that many of the persons chosen are unfamiliar with the new methods being employed in education. As a result, they are unable to suggest any innovative techniques to the student or aid in the development of skills acquired in their methods courses. This can result in the perpetuation of the limited teaching style of the critic teacher. The worst problem was that in some instances the experienced teacher discouraged

¹Ibid.

any innovation by maligning the methods courses saying they will not work in a practical situation. They suggest that the student just forget them.¹

The problems of selecting the proper critic teachers are recognized, but it was also realized that the student had to be qualified in certain ways to be most effective. It was generally conceded that the student was an individual and could not be categorized with his fellow potential teachers. Despite the recognition of individuality, there were some basic traits that were felt to be necessary for success. A student needed a professional background to insure competence, and some of the things this entailed were:

1. A personal philosophy of teaching,
2. A foundation in subject matter to be taught,
3. An understanding of the psychology of adolescent development,
4. An understanding of teaching techniques,
5. An ability to construct tests and interpret results.²

In addition to professional background, there were certain attitudes that helped raise the students' success

¹Hicks, op. cit., p. 154.

²Guidelines for Student Teaching in Iowa, Iowa State Education Association, Des Moines, Iowa, p. 14.

chances. Paramount among these was a positive attitude about the experience; this, was facilitated by proper orientation. Students who were successful in their experience usually were:

1. Enthusiastic about their work,
2. Able and willing to cooperate with their critic teacher,
3. Desirous of growing professionally,
4. Diligent in carrying out his assigned tasks,
5. Able to use initiative in planning and evaluation.

Suggested as characteristics important to insuring success were:

1. Neat appearance,
2. Vitality and ambition,
3. Interest in working with people,
4. Tolerance for immaturity and lack of knowledge,
5. Objectivity in viewing self and work,
6. Ability to use sound critical judgement.¹

These attributes did not guarantee success, but they made it much more likely. The students' expectations of the program, although varied, were, in part, responsible. Some of the expectations were quite narrow and limited to the student teaching experience, and some were very broad, and perceived it as just part of a larger program relating it to

¹Ibid.

their future professional career.

If the student teacher were to be what educators hoped he would be, a creative person rather than just an imitation of the cooperating teacher, it seemed evident that he was going to have to discover new and better ways of dealing with learners and subject matter.

The writer attempted in this paper to see if the student teachers felt they were allowed to use any novel ideas. The remainder of the paper was devoted to describing the research involved in this. Chapter II presents the procedure used to gather the information, and the information itself. The last chapter is a summary of the results and some conclusions drawn by the writer based upon those results.

CHAPTER II

PROCEDURE

I. INTRODUCTION

Much of what we know about man and his attitudes is inferred from his behavior. Psychologists have theorized that behavior is the overt manifestation of the feelings of the person observed. Recently, there has been an increasing awareness that these inferences drawn from human behavior were partially erroneous. This was attributed to the fact that there was a multiplicity of causes for any event. Because of these shortcomings, more and more effort is being exerted to develop an instrument to measure human attitudes. The importance of such a development would be that if an attitude could be measured, it would be reinforced or extinguished for the betterment of society. This would bring a greater degree of permanence to behavior change than the simple attempt through a reward system to modify the behavior only.

II. PROCEDURE

This study was concerned with an attempt to measure attitudes about innovation in the classroom of student teachers. The writer felt that if a student held a favorable attitude about innovation, it would be interesting to

find out whether or not it was fostered in their initial classroom experience. It was hypothesized that students had learned about novel teaching in their theory classes in professional education and that they would attempt to implement these in their student teaching experience.

Recognizing that any study must first be aware of what has been done before, a survey of the literature pertaining to innovation and student teaching was made. The results of that survey indicated a lack of innovative teaching and the importance of student teaching in the process of educating future educational professionals. The results comprise a major portion of this field report and appear in depth in the preceding chapter. It was this information that caused the writer to undertake this study.

The next step taken was to test the hypothesis about students having learned about novel teaching and the fact that they would, if allowed, implement them in their student teaching. This was done by measuring the attitudes of some persons who were just beginning to teach. The writer restricted the study by defining certain terms; these appear in the preceding chapter. The need for a measuring device was met by an attitude scale used at Drake University.

The instrument was developed by Dr. Robert Evans of the Drake University College of Education. It was an attitude scale of 55 statements about education to be responded

to on a six point scale. Ten of the statements were selected based upon how well they fit the writer's definition of innovation. The statements used in the study were the following:

1. The major purpose of teaching is to convey subject matter.
2. A teacher who experiments with the curriculum is asking for trouble.
3. Most elementary teachers have few decisions to make in classroom teaching.
4. The best teaching is done by young energetic teachers.
5. Pupils of any age or grade can be taught anything, anytime if it is on an appropriate level.
6. A non-conformist has no place in the elementary classroom.
7. Creativity is a sign of intelligence.
8. Teachers have a duty to see that pupils learn subject matter with or without interest.
9. A variety of teaching techniques is the elementary teachers most valuable asset.
10. Imagination and creativity in children is best fostered by teachers who have these traits.

These statements were submitted to a seven member panel, composed of four women, two elementary principals, a

kindergarten teacher, a special education teacher and two men, a state education representative and a college professor, both of whom were in elementary education. They were given the ten statements with following instructions:

"Answer each item by checking X or V in the appropriate row or column. There are no right or wrong items. The scale seeks to assess attitudes or present opinion on the items." The scale ran from (1) generally accept to (6) generally reject and indicated the strength and direction of the respondees present opinion. The levels of acceptance and rejection were:

1. Generally agree with statement.
2. Agree with slight reservation.
3. Agree with conditions.
4. Reject in some part.
5. Reject for the most part.
6. Reject statement generally.

The results of the panel's responses were tabulated and put in a table to be used for comparison with the two groups of students being used in the study. The mean score for the individual statements and for the total scale was figured to be used as a standard measure. In order to get a more accurate measure of the dispersion, the standard deviation of the distribution was figured, and a band of innovation was established as the mean plus or minus one standard

deviation from the mean. This was done to eliminate the extreme scores on either end of the distribution. It was stated then for the purposes of this paper that a student would be deemed as possessing innovative attitudes if his score fell within the limits of the band established as the criterion.

A group of 17 elementary education students from Drake University doing their student teaching in the conventional one-student-to-one-teacher relationship during the fall 1968 school term were administered the scale prior to their teaching experience. The results of their responses were tabulated and placed in a tabular form for comparison with the standard group. The mean score for each statement and for the total scale was computed in addition to the scores for the individual students. The mean scores were compared and the individual scores compared for fit within the band of innovation.

It is unfortunate that this scale was the only measuring device available on these students; therefore, any conclusions on the group must be made on the basis of this limited information.

A group of twenty students were placed in a novel student teaching situation with four students and one teacher comprising a team. These teams were given the same attitude scale at the same time with the identical instruc-

tions of the other group of student teachers. Their results were presented in the same manner as those of the other group. This was to facilitate the comparison of the scores of the groups. The scores of the team were compared with those of the conventional group to see if there was any difference between the groups and they were also compared with the standard to find out how many of the team members met the standard. There was additional data available on the team members, and this was used for a further measure of how well they fit the writer's definition of innovation.

The critic teachers of the teams were required to fill out a rating scale on each of their team members, and these were used to see how their views of their charges compared with the students' attitudes in relation to innovation. The rating scale was an instrument designed by Drake University and was composed of twenty traits that were measured on a four point forced choice scale. The four items that related to innovation were selected from the scale which included:

1. Show initiative and creativity in the use of a variety of instructional materials,
2. Evinces poise and adaptability in classroom situations,
3. Makes good contributions to class program on own initiative,

4. Shows originality and creativity in working with children.

The teachers rated them as 1- meaning superior, 2- above average, 3- average and 4- below average. These scores were computed for each person and a mean score for each person and the group on each statement was figured. The standard that had to be met on this scale to be considered innovative was that the mean score had to be above average or better, a score of 2 or 1.

All persons who were within the band of innovation on the attitude scale were compared with the critic teachers' evaluations to find out how many of them met both criteria. The total number of students in both groups was compared with the number who met the attitude standard to determine what per cent were innovative, and the same was done with each of the two groups of students separately. The writer hypothesized that those students who met both criteria were innovative. The percentage of those who met those qualifications was figured to determine if the student teachers were within the student teachers were innovative as defined in this paper.

The last evaluative device to be used was the students' own evaluation of the experience. Each student in the teams was required to join with the other members to write an evaluation at the mid-term and at the end of the

experience. This paper included their attitudes about the experience, the good and bad points, and any innovative teaching methods they may have tried. A resume of their opinions was made and presented in Chapter III as a part of the presentation of the results.

In concluding the paper, the writer made a summary of the results of the whole study discussing what he found to be the nature of innovation in student teaching. He also made some recommendations to persons dealing with innovation and student teachers. Included in these recommendations are some suggestions to future researchers specifically calling to their attention some of the limitations of this study and additional things the writer would do if he were to undertake further study in this area.

CHAPTER III

PRESENTATION OF THE DATA

The writer made a survey of the literature pertaining to innovation and student teaching. There was little evidence in the literature of any great use innovation in the classroom; in fact, there seemed to be some evidence of suppression of initiative of student teachers by their cooperating teachers. It was hypothesized that students were given innovative ideas in their methods courses and, therefore, would be inclined toward this type of teaching. The writer hoped in this study to determine whether or not students were innovative persons; and if they were, whether they were stymied in their efforts to do so.

The study is broken down into three parts -- the survey of the literature and definition of the problem in Chapter I, the methodology used in doing this paper in Chapter II, and the presentation of the data in this, Chapter III. This chapter is divided into presenting the data in a series of tables, a summary of the data in the study, and some conclusions predicated on that information. The writer will conclude the study with some recommendations based on this field report and advice to future researchers.

Research of the literature indicated that the innovative classroom teacher is exceptional and such behavior is

sometimes suppressed. Armed with this information, the writer sought to discover if students were innovative when they began their teaching careers. In an effort to ascertain this information, an attitude scale was administered to a group of student teachers to determine their ideas on education.

The scale was first administered to a panel of five women, two principals, two teachers, and a supervisor and two men, a state education representative and a college professor. The purpose of this was to establish with this panel of elementary educators, a standard with which to compare the scores of the student teachers. As was stated in Chapter II, they were asked to answer as they thought innovative student teachers would. From these scores, a band of innovation was developed. This was done by totaling the scores of all of the panelists and figuring the mean score of the group. To eliminate the extremes in the distribution, the standard deviation was computed and the band of innovation was the mean score \pm 1 standard deviation.

Table I contains the results of the panel's responses. The column on the left hand side contains the ten statements used in the attitude measurement and after each statement is a row of boxes or cells. The first seven cells contain the scores of the individual panel members for the statement, and the last two the total and mean score of the group for

TABLE I

RESPONSES OF THE PANEL OF SEVEN EDUCATORS TO THE TEN STATEMENTS
ON THE ATTITUDE SCALE MEASURING INNOVATIVE BELIEFS

	Responses of Panelist A	Responses of Panelist B	Responses of Panelist C	Responses of Panelist D	Responses of Panelist E	Responses of Panelist F	Responses of Panelist G	Total Score of All Panelists	Mean Score
1. The major purpose of teaching is to convey subject matter.	6	2	5	6	5	6	6	36	4.3
2. A teacher who experiments with the curriculum is asking for trouble.	6	2	5	5	6	6	6	36	5.1
3. Most elementary teachers have few decisions to make in classroom teaching.	5	6	2	4	6	2	5	30	4.3
4. The best teaching is done by young energetic teachers.	5	6	6	4	4	6	5	36	5.1
5. Pupils of any age or grade can be taught anything, anytime if it is on an appropriate level.	1	6	2	3	2	2	2	18	2.6
6. A non-conformist has no place in the elementary school classroom.	4	5	4	6	5	5	6	35	5.0

TABLE I (continued)

	Responses of Panelist A	Responses of Panelist B	Responses of Panelist C	Responses of Panelist D	Responses of Panelist E	Responses of Panelist F	Responses of Panelist G	Total Score of All Panelists	Mean Score
7. Creativity is a sign of intelligence.	1	1	5	3	3	6	4	23	3.3
8. Teachers have a duty to see that pupils learn subject matter with or without interest.	3	2	4	4	4	5	5	27	4.0
9. A variety of teaching techniques is the elementary teachers most valuable asset.	1	4	3	3	4	3	5	23	3.3
10. Imagination and creativity in children is best fostered by teachers who have these traits.	1	1	4	4	4	5	3	22	3.1
Total Score	33	35	40	42	43	46	47	286	41.0

that statement. Each of these cells is appropriately headed at the top of the column.

At the bottom of the table is a row with the total score of each panelist and the total and mean score of the group for the whole scale. Using the mean score of 41.0, the writer figured the standard deviation using the formula $\sqrt{\frac{\sum x^2}{N}}$. The deviation was 5.29 and, therefore, the band of innovation was established as 41.0 ± 5.29 , or 46.3 to 35.7. Any scores that fell within this band were considered to be indicative of innovative attitudes. It was interesting to note that on the six point scale used for the responses, with scores of 1 to 3 indicating acceptance and 4 to 6 indicating rejection in varying degrees, that nine of the ten statements were scored by the panel as above 3 or were rejected to some degree. There were only 3 of the 10 mean scores that were not in the 3 to 5 range which indicated that generally the panel had reservations about accepting or rejecting the concepts.

A group of 17 elementary education students working in a conventional one-to-one student teaching program were given the attitude scale and the results of their responses appear in Table II. To interpret the table, the reader should look at the column running vertically on the left side of the table where there is a series of numbers from 1

TABLE II

THE RESPONSES OF THE 17 STUDENTS IN THE ONE TO ONE
STUDENT TEACHING RELATIONSHIP ON THE ATTITUDE
SCALE AND A STATEMENT OF WHETHER IT MEETS
INNOVATIVE CRITERIA

	Score Statement 1	Score Statement 2	Score Statement 3	Score Statement 4	Score Statement 5	Score Statement 6	Score Statement 7	Score Statement 8	Score Statement 9	Score Statement 10	Total Score of All 10 Statements	Meets Innovative Criteria
Student 1	4	5	6	6	3	6	3	3	2	2	40	Yes
2	2	5	5	5	2	4	1	5	1	2	29	No
3	6	6	6	4	1	6	1	4	2	2	38	Yes
4	2	3	6	5	5	5	4	3	3	1	37	Yes
5	6	6	6	6	2	5	3	6	2	3	45	Yes
6	6	6	6	4	1	5	2	3	1	1	35	No
7	3	6	4	4	3	5	2	4	1	3	35	No
8	2	2	6	6	1	4	6	6	1	1	35	No
9	3	5	5	4	2	5	4	5	2	5	40	Yes
10	4	5	6	4	3	4	3	5	1	2	37	Yes
11	6	6	6	1	3	3	3	2	2	1	38	Yes
12	4	5	6	2	2	4	3	2	2	1	31	No
13	2	6	5	5	1	5	2	4	2	1	33	No
14	3	5	2	5	3	5	6	4	3	2	38	Yes
15	5	6	2	4	4	5	6	4	1	1	38	Yes
16	4	4	4	3	3	4	3	4	3	3	35	No
17	4	5	5	3	3	5	4	4	2	2	37	Yes
Total Scores of All Stu- dents	66	83	86	76	40	80	56	69	31	34	621	10
	3.9	4.8	5.1	4.5	2.4	4.7	3.3	4.1	1.9	2.0	36.5	

to 17, each of which identifies a student. After each of those numbers is a horizontal row of cells, ten of which are for the responses to each statement and the other two for the total score and an indication by yes or no of whether the score fell within the 46.3 to 35.7 innovation band. Each of these cells appears under the proper heading in the table.

At the bottom of the table are two rows that are labelled, total scores of all students and mean score of all students. These contain that information about the individual statements and the whole scale.

The range of scores in this group was 45 to 29 with a mean score of 36.5. Although the mean score fell within the band of innovation, individually only 10 of the 17 students had scores that fell within the range. Of the 10 statements, 7 were rejected to some degree by the group as a whole as opposed to the criteria group's rejection of 9 of them. Statements 5, 9, and 10 were accepted by the students in this group and only number 5 was accepted by the panel. Of the mean scores of the group, 6 were within the range of 3 to 5 indicating some reservation in accepting or rejecting them and 3 of the 4 that were not in this range were accepted rather strongly. The panel had three scores out of the middle range as a group and two of those were strongly rejected. As a group it can be stated that the students were more accepting than the educators were, and 59 per cent

of the students were in the band of innovation.

Table III contains the results of the measurement of attitudes of 20 students who were members of five student teaching teams. The column on the left hand side of the table contains the numbers 18 through 37, and these identify the individual students who took the attitude scale in this group. As in Table II, after each number is a row of cells for the scores of the individual statements by the subject, their total score on the scale, and an indication of whether or not they met the innovative standard of the panel by a yes if they did and a no if they did not. At the bottom of the table are two rows, one for the composite score of the whole group and one for their mean score on the individual concepts and the whole scale. In the last cell in the mean score row, the number of students who met the standard appears. These 15 students represent 75 per cent of the group and had a mean score of 39.7.

The mean of the team fits into the band of innovation of the panel and compares more favorably with their scores than do the conventional student teachers. The 36.5 mean score and 59 per cent figure of the conventional group are both less than the teams. The range is 53 to 29 on individual scores and is the greatest of any of the groups. On the individual statements, the teachers in Table III rejected 7 of the statements. They accepted 5, 9, and 10 just as the

TABLE III

THE RESPONSES OF THE TWENTY STUDENT TEACHING TEAM MEMBERS
TO THE ATTITUDE SCALE AND A STATEMENT OF WHETHER THEY
MEET THE INNOVATIVE CRITERIA

	Statement 1	Statement 2	Statement 3	Statement 4	Statement 5	Statement 6	Statement 7	Statement 8	Statement 9	Statement 10	Total Score of All Statements	Score Meets Innovative Criteria
Student 18	6	6	4	3	4	4	5	5	2	1	40	Yes
19	4	4	6	4	3	4	3	4	2	2	36	Yes
20	5	5	6	6	3	5	3	5	1	2	41	Yes
21	5	5	6	5	4	1	4	6	1	3	40	Yes
22	6	6	6	6	1	6	6	6	4	6	53	No
23	5	6	6	6	1	6	6	4	1	1	42	Yes
24	4	6	6	6	3	4	3	2	1	3	38	Yes
25	4	5	5	4	4	4	5	5	2	3	41	Yes
26	4	6	4	5	1	5	4	4	1	3	37	Yes
27	5	4	6	6	5	4	6	6	3	2	47	No
28	5	5	3	2	5	5	3	5	2	1	36	Yes
29	3	6	6	4	2	5	6	4	3	1	40	Yes
30	4	5	5	2	1	6	4	6	3	1	37	Yes
31	3	5	5	3	4	4	3	4	2	3	36	Yes
32	6	6	6	2	2	6	1	5	6	1	41	Yes
33	5	6	6	5	5	6	3	6	4	1	47	No
34	4	6	5	4	4	6	3	4	3	2	41	Yes
35	3	6	5	3	2	5	1	3	4	2	34	No
36	5	6	6	3	1	5	4	5	1	1	37	Yes
37	4	5	6	4	1	4	1	2	1	1	29	No
Total Score of All Students	90	109	108	83	56	95	74	91	47	40	793	15
Mean Score	4.5	5.5	5.4	4.2	2.8	4.6	3.7	4.6	2.4	2.0	39.7	

other group of student teachers had. The team students were more emphatic in their rejection or acceptance of statements than the other groups were with only five of the mean scores in the 3 to 5 range on the scale.

As a result of this information, the writer hypothesized that the team student teachers seemed to be more predisposed to innovation than were their conventional counterparts. Some possible explanations for this might be that the students selected to be members of the team might have been felt to be more innovative and that this was a basis of selection, or that the team teaching concept in student teaching is innovative in itself and may have fostered such ideas in the participants.

A composite table of the three groups that the attitude scale was given to was drawn up to make comparisons. Table IV contains the mean score of all three groups that the attitude scale was given to on the individual statements and the whole scale. Across the top of the table are listed the concepts that were measured, and a column appears below each for the scores and at the end of the row is a column for the total scale score. At the left hand side of the table, each group of scores is appropriately identified.

The first group, the panel, had 3 scores of over 5 indicating rejection to a great degree, two scores between 4 and 5 indicating rejection for the most part, four scores

TABLE IV

THE MEAN SCORES OF THE PANEL AND STUDENT TEACHERS ON
THE INDIVIDUAL STATEMENTS AND THE WHOLE SCALE

STATEMENTS											
Total Scores on Attitude Scale											
Imagination and creativity in children is best fostered by children with those traits.											
A variety of teaching techniques is the elementary teacher's most valuable asset.											
Teachers have a duty to see that pupils learn subject matter with or without interest.											
Creativity is a sign of intelligence.											
A non-conformist has no place in the elementary school classroom.											
Pupils of any age or grade can be taught anything, anytime, if it is on an appropriate level.											
The best teaching is done by young energetic teachers.											
Most elementary teachers have few decisions to make in classroom teaching.											
A teacher who experiments with the curriculum is asking for trouble.											
The major purpose of teaching is to convey subject matter.											
Panel	4.3	5.1	4.3	5.1	2.6	5.0	3.3	4.0	3.3	3.1	41.0
Conventional Student Team	3.9	4.8	5.1	4.5	2.4	4.7	3.3	4.1	1.9	2.0	36.5
Team Student Panel	4.5	5.5	5.4	4.2	2.8	4.6	3.7	4.6	2.4	2.0	39.7

between 3 and 4, which did not indicate any clear cut decision on rejection or acceptance of the statement and one statement, number 5, was accepted with conditions.

The second group, the conventional student teaching group, had only one score in the 5 to 6 range indicating rejection to a great degree, four of the scores were between 4 and 5 indicating rejection for the most part, 2 of the scores were in the 3 to 4 range of no clear-cut decision, two of the scores were between 2 and 3 indicating agreement with certain reservation, and the last score of 1.9 was almost in that group also.

The last row of scores, those of the team members, had two scores between 5 and 6 indicating rejection for the most part, these two scores of 5.4 and 5.5 were also the greatest measure of rejection of all the groups. Four of their scores were between 4 and 5 indicating rejection for the most part, 1 was between the 3 and 4 range of no clear-cut response, and the other 3 scores were between 2 and 3 indicating agreement with reservations.

In general, although the panel rejected more statements, with only one score below 3, than the students did and had a higher scale score, they also had more statements in the 3 to 4 range on the scale that indicated no definite answer. It might possibly be because of their greater variety of experiences that the teachers read things into

the statements and were unable to make a clear cut decision. Of the 37 students taking the attitude scale, 25 or 68 per cent of them were with the standard of innovation established by the study.

From the foregoing information, the writer concluded that about 2 out of 3 student teachers are innovative when they start their teaching experience. In an attempt to see how the critic teachers view the students in their teaching experience, the members of the team teaching program were evaluated by studying their ratings by their team leader during the semester. Four traits were selected from a rating scale filled out on each student, the basis of the selection being that they dealt with innovation. These traits were rated on a four point scale with 1 as superior, 2 as above average, 3 as average, and 4 as below average. The cooperating teachers perceptions of the students on these traits appear in Table V.

The traits that were the basis of the measurement appear at the top of the table with a column of cells under each for the ratings of the individual students. In the first column on the left side of the table are the identifying numbers of the subjects, these coincide with those on Table III and are 18 through 37. Because of this, the reader may compare the critic teacher rating with the attitude scale score by simply looking at the right of the

TABLE V

CRITIC TEACHERS RATINGS OF THE 20 STUDENT TEACHING
TEAM MEMBERS ON FOUR ATTRIBUTES REGARDED AS
BEING INNOVATIVE BY USE OF A 4 POINT
RATING SCALE

	Shows Initiative and Creativity in the Use of a Variety of Instru- tional Materials	Evinces Poise and Adaptability in Classroom Situa- tions	Makes Good Con- tributions to Class Program on Own Initiative	Shows Originality and Creativity in Working with Children	Total Score of Critic Teachers Rating on these Four Attributes	Mean Score for all Four Attributes	Met Attitude Scale Criteria
Student 18	1	1	1	1	4	1.00	Yes
19	2	3	1	3	9	2.25	Yes
20	1	1	1	1	4	1.00	Yes
21	2	1	1	2	6	1.50	Yes
22	3	2	3	3	11	2.75	No
23	1	1	1	1	4	1.00	Yes
24	1	1	1	1	4	1.00	Yes
25	2	1	1	1	5	1.25	Yes
26	1	1	1	2	5	1.25	Yes
27	2	1	1	2	6	1.50	No
28	1	2	1	1	5	1.25	Yes
29	2	1	2	2	7	1.75	Yes
30	1	1	2	2	6	1.50	Yes
31	2	2	2	2	8	2.00	Yes
32	2	2	2	3	9	2.25	Yes
33	2	2	2	3	9	2.25	No
34	2	3	3	2	10	2.50	Yes
35	2	2	2	3	9	2.25	No
36	1	2	1	1	5	1.25	Yes
37	2	1	1	2	6	1.50	No
Total Score of All Students	33	31	30	38	132		
Mean Score	1.65	1.55	1.50	1.90	6.60		

appropriate number. Reading horizontally from the identifying number are the cells for the individual traits, the total score on the scale, the mean score obtained on all four traits and a yes or no indication of whether the student was considered to meet the innovative standard on the attitude scale. The last two cells made an easy comparison of the teacher's perception and the attitude scale score possible.

Of the 80 possible ratings on the four traits, 38 were rated superior, 32 above average and 10 average. The total and mean scores appear in the rows at the bottom of the table. As a group, the students were most satisfactory showing originality and creativity in working with children. But as a group, they were rated above average on all traits and so the writer concluded that the cooperating teachers saw them as innovative persons. In an attempt to see which students met both criteria, the writer set a rating of above average (2.00) or better for the standard on this scale. The 15 students who had a Yes in the last column were checked for the teacher's rating and it was found that three of them 19, 32, and 34 were rated below the standard and, therefore, did not qualify. This meant that 12 of the students met both criteria and that 60 per cent of the team members were innovative according to the criteria in the study. Three of the five students not in the innovative

band were not perceived as innovative by their critic teachers either and so there were 3 students who failed to meet any criteria and 5 who met half of it.

The writer concluded that a majority of the student teachers on the team had innovative attitudes with 75 per cent meeting the standard and that 60 per cent not only had those attitudes, but were perceived that way by their critic teachers also.

Based on that data, a study of the team's evaluation of their experiences was made. The evaluations were made at mid-term and at the close of the semester. The writer synthesized the advantages of all the groups statements and the results of that effort are the following:

1. An opportunity to compare your ideas and opinions with others.
2. More time to be able to work on individual differences.
3. An opportunity to work in small group activities and coordinate them with the larger group.
4. An opportunity to team teach.
5. A chance to see more than one method of attacking a problem.
6. An opportunity to compare yourself with other student teachers.
7. More constructive criticism of teaching style with

four evaluations rather than one.

The team members felt that their major weakness was in the area of discipline, and this might be blamed on a lack of continuity in the discipline in the classroom. An interesting shortcoming also mentioned was inability to motivate non-workers.

There were a number of innovative ideas that were used that were mentioned in the evaluations, among them were:

1. A visit to the Foreign Food Fair,
2. A test for each level of students in the social studies,
3. Use of varied instructional techniques, e. g. role playing, audio-visual aids, games, etc.

Some of the specific varied instructional techniques used were using witches, ghosts, and goblins to teach numbers at Halloween; use of the game Concentration to help in spelling; role-playing the character in the books the students read, or had read to them; a mock nomination and election in social studies; and a form of differentiated staffing with a group of students under a teachers guidance; building a montage; another one drawing pictures while listening to classical music; still another creating a radio script; and two other groups brainstorming, one with poetry and the other with mathematics.

The students generally felt that the team student teaching at Drake was an excellent experience that allowed them to have some extra experiences that they could not have had in a conventional situation. They exhibited a number of innovative ideas that were allowed to reach fruition and had few complaints in their evaluations.

It seems safe to conclude that, the team student teachers at Drake University in the fall of 1968 were innovative in 60 per cent of the cases as defined within this paper and that there was no overt attempt to stifle students initiative.

I. CONCLUSIONS

Despite the lack of innovation indicated in the literature and the suppression of student teachers who attempted to show it, this study indicated a majority of the students have attitudes conducive to innovation and no real attempts to dissuade them from applying them. It might also be said that the use of teams of student teachers were quite favorably viewed by the students and that this program allowed students to try many varied ideas.

If the 60 per cent figure is accurate and can be maintained, then the percentage of innovative teachers will grow in the future and give great hope to education. It is the hope of the writer that this study will just be the

beginning of research in this area because the future of education is in the hands of the new young teacher; and, if they are to meet the dynamic challenges to come, they must be armed with bold new ideas.

II. RECOMMENDATIONS

For the research which may follow some recommendations are made:

1. Increase the number of subjects; the panel used as the standard was not large enough and the number of students was insufficient for any conclusive results. Hopefully, students from more than one school year can be used to eliminate any chance of an exceptional year giving a false impression of the existence of innovation.

2. Get more data on the conventional student teaching group. Unfortunately, the only information available on them was the attitude scale, and possibly the teacher's evaluations of these students would have indicated that they performed as well as the team members did. This could establish the value of the team over the conventional method or illustrate that it does not make any difference. Also, an evaluation by the students in the conventional situation may have indicated that they, too, were doing many innovative things. It might be very interesting to allow a student to be a member of a team and to teach individually to

make a comparison of the two methods. This would have to be alternated, that is, some would do the conventional teaching first and others would be team members first in order to eliminate the principle of primacy.

3. The critic teachers should take the attitude scales at the same time the students do for a comparison of their ideas. The students should fill out the teacher's rating scales on themselves to see how their self-assessment compares with that of the teachers. Some of the teachers rated the students very high and others rated them very low; this "halo-effect" is very difficult to control in the measurement of the traits and a way of eliminating it must be devised.

4. A checklist of innovative teaching methods need to be developed. This could list novel teaching techniques and should be given to each cooperating teacher at the start of a student teaching semester with some explanation of each teaching technique listed. At the midterm the checklist should be given to the students so that they might check those methods being used in their classrooms. This could be done again at the close of the semester by both the critic teacher and the student. The writer feels that if we are to become successful in making innovative persons available to education, it will take the combined efforts of all persons concerned with teacher education.

As a result of this study, it is evident that there are needs to meet regarding research in this area. The hope for the future of education might well rest with the student teaching process. John Mulhern said: ". . . . Refinement and modification of our present teacher education programs and student teaching seem to hold the greatest promise for the future of teacher education and the teaching profession."¹

¹John D. Mulhern, "The New Emphasis in Student Teaching," The North Central Association Quarterly, XLII (Fall, 1967), 206.

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